

1. (Three Times Amended) An apparatus for thermally cycling biological samples, comprising:

a sample block having a plurality of openings for receiving sample wells of a sample well tray therein, the sample wells having closed sample well bottoms configured to contain a sample, the plurality of openings for receiving sample wells being configured to contact an outer surface of a corresponding sample well, the sample block further comprising a plurality of receiving portions in a top surface thereof; and

a plurality of spring devices interposed between the sample block and the sample well tray, the plurality of spring devices being positioned at least partially in the plurality of receiving portions, the plurality of spring devices imparting an urging force on the sample well tray,

said plurality of spring devices creating the urging force to urge the sample wells away from the openings in the sample block upon removal of a pressing force imparted on the top of the sample well tray for pressing the sample wells into the openings of the sample block.

2. (Twice Amended) The apparatus of claim 1, wherein the plurality of spring devices are engageable with the sample well tray.

4. (Twice Amended) The apparatus of claim 1, wherein at least one of said spring devices is positioned about an outer periphery of the sample block in a region outside of the openings in the sample block.

6. (Twice Amended) The apparatus of claim 4, wherein said at least one spring device comprises a coil spring.

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8. (Twice Amended) The apparatus of claim 1, wherein said plurality of spring devices are positioned substantially symmetric around the periphery of the sample block.

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10. (Twice Amended) The apparatus of claim 1, wherein the plurality of spring devices are spaced around an outer periphery of a top surface of the sample block, said spring devices engaging a bottom surface of the sample well tray in order to provide the urging force to disengage the sample well tray from the sample block upon opening of a cover for the apparatus, said cover configured to provide the pressing force on top of the sample well tray.

19. (Amended) An apparatus for thermally cycling biological samples, comprising:

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a cover;

a sample block having a plurality of openings in a top portion thereof for receiving a sample well tray having a plurality of sample wells, the sample wells having closed sample well bottoms configured to contain a sample, the plurality of openings for receiving sample wells being configured to contact an outer surface of a corresponding sample well, the sample block further comprising a plurality of receiving portions in a top surface thereof; and

a plurality of spring devices positionable between the sample block and the sample well tray at least partially in the plurality of receiving portions to urge the sample well tray away from the sample block when the cover is moved from a closed position toward an open position,

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wherein said cover imparts a downward force on the top of the sample well tray to press the sample wells into the openings of the sample block when the cover is moved toward a closed position, said ^{in the plurality of spring devices} ~~urging mechanism~~ imparting an upward force on the sample well tray, and wherein said downward force imparted by the cover retains the sample well tray against the sample block when the cover is in said closed position.

20. (Amended) The apparatus of claim 19, wherein the sample well tray is positionable between the cover and the sample block when the cover is in a closed position.

21. (Amended) The apparatus of claim 20, wherein the plurality of spring devices are engageable with the sample well tray and the sample block.

22. (Amended) The apparatus of claim 21, wherein the plurality of spring devices are positioned on a surface of the sample block radially outside of the openings in the sample block.

23. (Amended) The heating apparatus of claim 22, wherein the plurality of receiving portions comprise a plurality of cylindrical spring openings for receiving the plurality of the spring devices.

40. (Amended) The apparatus of claim 1, wherein said pressing force counteracts said urging force to retain the sample well tray against the sample block when said pressing force is imparted.

41. (New) The apparatus of claim 1, wherein the plurality of spring devices directly contact a bottom surface of the sample well tray.

42. (New) The apparatus of claim 21, wherein the plurality of spring devices directly contact a bottom surface of the sample well tray.

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43. (New) An apparatus for thermally cycling biological samples, comprising:
a sample block having a plurality of openings for receiving samples of a sample well tray therein, the sample wells having closed sample well bottoms configured to contain a sample, the plurality of openings for receiving sample wells being configured to contact an outer surface of a corresponding sample well;

a sample well tray holder for holding the sample well tray therein, said sample well tray being movable relative to the sample well tray holder; and

a plurality of leaf springs interposed between the sample block and the sample well tray holder, the plurality of leaf springs configured to impart an urging force on the sample well tray via the sample well tray holder,

said plurality of leaf springs creating an urging force to urge the sample wells away from the openings in the sample block upon removal of a pressing force imparted on the top of the sample well tray for pressing the sample wells into the openings of the sample block.

44. (New) The apparatus of claim 43, wherein the plurality of leaf springs biases the sample well tray holder away from the sample block to thereby urge the sample wells out of the openings in the sample block upon removal of the pressing force, the removal of the pressing force occurring upon the opening of a cover for the sample well tray.

45. (New) The apparatus of claim 43, wherein a portion of the leaf springs are positioned on a bottom surface of the sample well tray holder.

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46. (New) The apparatus of claim 45, wherein the leaf springs are positioned substantially uniformly around an opening for the sample well tray on the bottom surface of the sample well tray holder.

47. (New) The apparatus of claim 46, comprising four of said leaf springs.

48. (New) The apparatus of claim 43, further comprising a cover, wherein the sample well tray holder is configured to be pressed down by an outside portion of the cover so that the sample well tray becomes disengaged from the sample well tray holder, the urging mechanism no longer imparting an upward force on the sample well tray in this position.

49. (New) The apparatus of claim 48, wherein the sample well tray receives said upward force from the sample well tray holder when the outside portion of the cover is no longer pressed downward so that the sample well tray holder engages the sample well tray.

REMARKS

Before this Amendment, claims 1-8, 10-28, and 40 were pending. By this Amendment, Applicants propose to cancel claims 3, 5, 11-17, and 24-28, amend claims 1-2, 4, 6, 8, 10, 19-23, and 40, and add new claims 41-49, as shown above. Upon entry of this Amendment, claims 1-2, 4, 6-8, 10, 18-23, and 40-49 are pending in this application. Applicants respectfully request that this Amendment under 37 C.F.R. § 1.116 be entered by the Examiner, placing the pending claims in condition for allowance.

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